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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/507,497

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Hans Dagborn

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

ZIMMERMANN, JOHN P

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/507,497

Applicant(s)

DAGBORN, HANS

Examiner

John P. Zimmermann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 13 September 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy was originally filed in English and therefore has been afforded the perfected foreign filing date of 11 March 2002. No further action by applicant is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: A) **Figure 1** shows Reference numbers **7, 9, 10, 11 & 15**; none of which are described in the specification. B) **Figure 2** shows Reference number **15**, which is not described in the specification. C) **Figure 3** shows Reference number **7**, which is not described in the specification. D) **Figure 4** shows Reference numbers **7, 9, 10 & 11**; none of which are described in the specification. E) **Figure 5** shows Reference numbers **7, 9, 10 & 11**; none of which are described in the specification. F) **Figure 6** shows Reference number **S1DiffX**, which is not described in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: **HAND-HELD INK-JET PRINTING DEVICE.**

5. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms, which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: "other values stored and used" (Specification, Page 4, Lines 2-3), "the bitmap resides in the upper left corner of a maximum sized memory area" (Specification, Page 4, Lines 9-10), "image to be print-out" (Specification, Page 5, Line 10).

Claim Objections

6. **Claim 1** is objected to because of the following informalities: A) The phrase “for keeping track of the assemblies and print-heads position on a print medium,” if intended to be a descriptive phrase referred to by the “means for” portion of the phrase, should start on the next line, properly indented to distinguish as such and not be broken into two phrases. Additionally “assembly’s” is misspelled. B) The phrase “providing a mode where said logic means operates...” if intended to be a descriptive phrase referred to by the “means for” portion of the claim, should remain as located, but be properly indented to distinguish it as such. C) The phrase “a further command from said processor providing a mode where said logic means is relived from controlling said print-head...” appears to be related to a first command section of the claim that cannot be determined as it is currently written. Additionally, the term relieved is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. **Claim 3** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The term “fictive” is typically understood to mean imaginary. Given the limited amount of detail to describe the imaginary

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nozzle and its' use, it would not be apparent to one of ordinary skill in the art to enable the making or use of the invention.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. **Claims 5 -7** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. **Claim 6** recites the limitation "said fictive nozzle" in lines 2-3. As the amended claim is dependent on **claim 2**, there is insufficient antecedent basis for this limitation in the claim. Additionally, **claim 6** contains the term "B," which is not further discussed in the specification and therefore would not allow one of ordinary skill in the art to understand what is distinctly claimed as the invention.

b. **Claim 5** contains the phrase "other values stored and used for calculations," which is not further discussed in the specification and therefore would not allow one of ordinary skill in the art to understand what is distinctly claimed as the invention.

c. **Claim 7** contains the term "bitmap resides in the upper left corner of a maximum sized memory area for a possible bitmap," which is not coherently discussed in the specification and therefore would not allow one of ordinary skill in the art to understand what is distinctly claimed as the invention.

11. **Claim 7** is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural

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cooperative relationships are: a further description of where the bitmap actually resides on the apparatus given that the memory device is not discussed in detail such that one of ordinary skill in the art would be able to determine what is meant by the upper left corner of a maximum sized memory area for a possible bitmap.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. **Claims 1, 2, & 4-11** are rejected under 35 U.S.C. 102(b) as being anticipated by **Kagayama et al.** (US 5,861,877 A).

d. As related to independent **claim 1**, Kagayama et al. teach a sensor and print-head assembly comprised in a housing (Kagayama et al. – Figures 4 & 7, shown below), controlled by a processor (Kagayama – Figure 7, Reference #55, shown below) connected to at least one first electronic memory (Kagayama – Figure 7, Reference #56, shown below), comprising at least one sensor means (Kagayama – Figure 7, Reference #41 & #42, shown below), a print-head array (Kagayama – Figure 7, Reference #10, shown below), input means (Kagayama – Figure 4, Reference #3, #4 & #64, shown below), and means for keeping track of the assembly's and print-head's position on a print medium (Kagayama – Figure 7, Reference #41 & #42, shown below).

FIG. 4

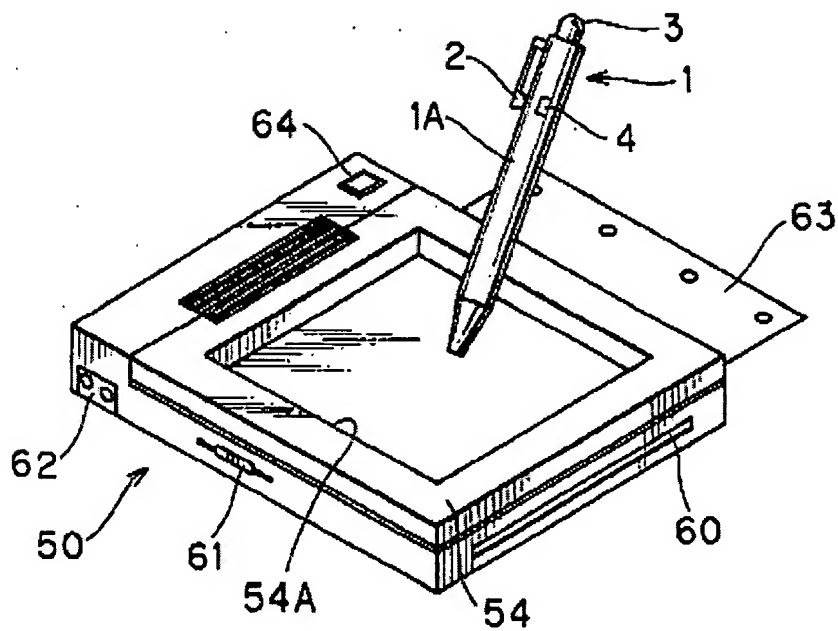
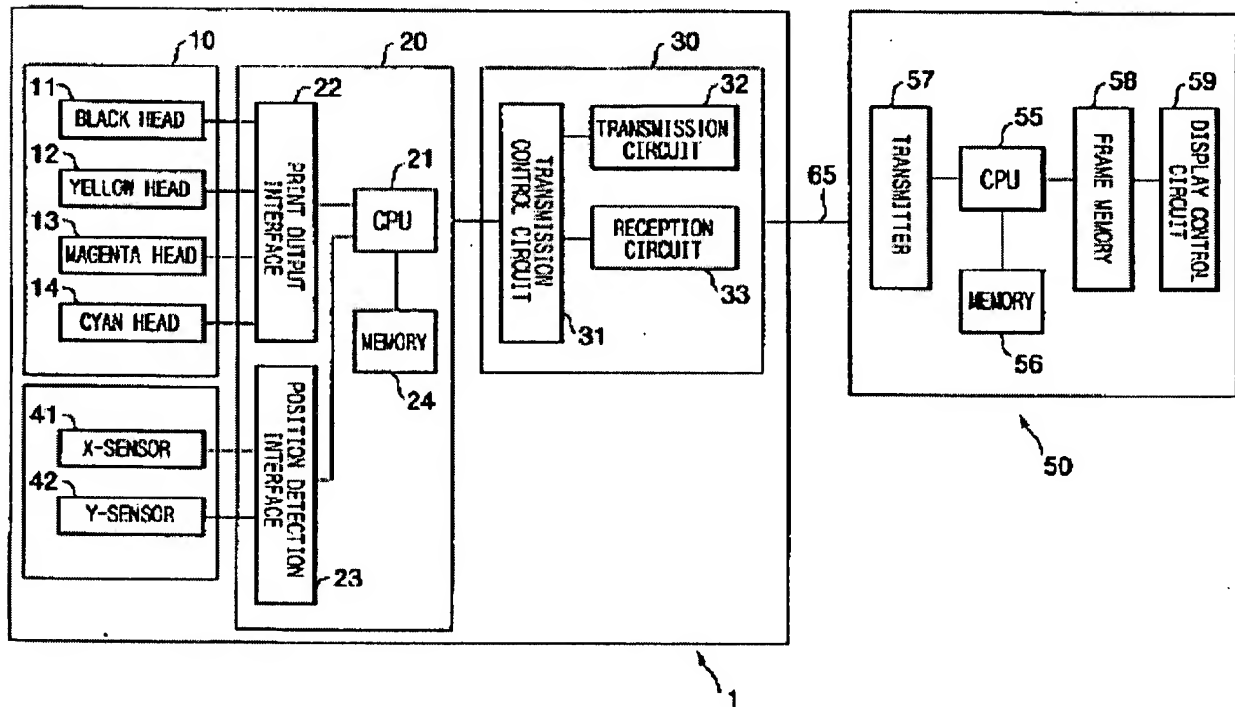


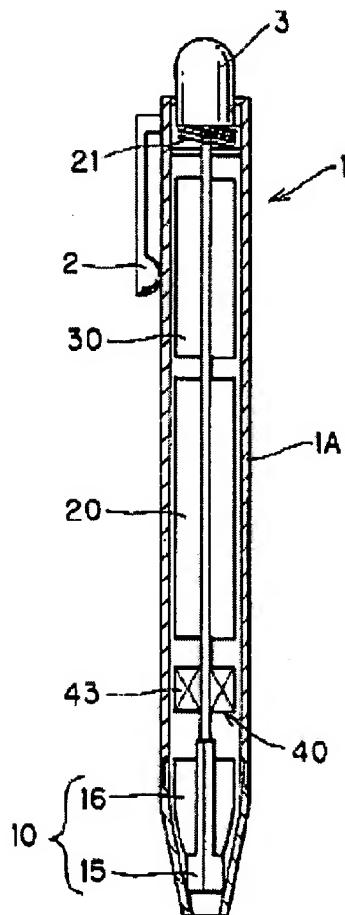
FIG. 7



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- e. Continuing with **claim 1**, Kagayama et al. teach the processor is provided a connection to a hardware control arrangement (Kagayama – Figure 4, Reference #4 & #64 and Figure 7, Reference #65, both shown previously & Detailed Description, Column 3, Lines 29-32). Additionally, Kagayama et al. teach the arrangement comprising a programmable logic means (Kagayama – Figure 7, Reference #21, shown previously), connected to at least one second electronic memory (Kagayama – Figure 7, Reference #24, shown previously), and having input means for receiving measurement signals from said at least one sensor (Kagayama – Figure 7, Reference #23, shown previously).
- f. As related to dependent **claim 2**, Kagayama et al. teach the print-head is of the ink-jet type with spray nozzles (Kagayama et al. – Detailed Description, Column 3, Lines 36-40 and Figure 1(b), Reference # 10, shown below).

FIG. 1(b)



g. As related to dependent **claim 4** and further dependent **claim 5**, Kagayama et al. teach the assembly includes a look-up table/tables for sensor steps provided with integer [numeric] values (Kagayama et al. – Detailed Description, Column 4, Lines 51-52).

h. As related to further dependent **claims 6-8 & 10-11**, Kagayama et al. teach the assembly as indicated. Subsequently, this assembly could be used in the manner further recommended by applicant and the components could perform the functions indicated by

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the claims. The limitations found in these claims do not further limit the apparatus claims since they do not recite any further structure.

i. As related to dependent **claim 9**, Kagayama et al. teach the assembly as indicated. Subsequently, this assembly could be used in the manner further recommended by applicant. The limitations found in this claim do not further limit the apparatus claims since they do not recite any further structure.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

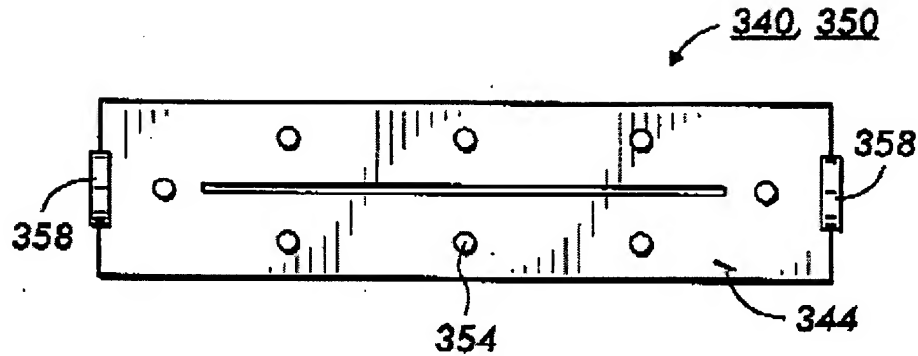
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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16. **Claims 3 & 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kagayama et al.**, (US 5,861,877 A) as applied to **claims 1 & 2** above, and further in view of **Saund**, (US 2002/0171731 A1).

a. As related to dependent **claim 3**, Kagayama et al. teach the limitations of **claims 1 & 2** for the reasons above. Kagayama et al. *do not* specifically teach the nozzles are comprised in an array. *However*, Saund teaches a hand-held printing system comprising a printhead having a linear array of ink nozzles (Saund – Title; Abstract; and Detailed Description, Paragraph 34).

b. As related to dependent **claim 12**, Kagayama et al. teach the limitations of **claim 1** for the reasons above. While Kagayama et al. teach positioning means and sensors (Kagayama et al. – Figure 7, Reference #23, shown previously), Kagayama et al. *do not* specifically teach the positioning means provided to position the assembly in a correct starting position in relation to the print medium. *However*, Saund teaches a hand-held printing system comprising position sensors to position the assembly in the correct starting position (Saund – Figure 6, Reference #354, shown below; Detailed Description, Paragraph 68; and Claim 1, Lines 3-5).

FIG. 6

Given the same field of endeavor, specifically a hand-held ink-jet printing device, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the hand-held ink-jet printing device with the ink-jet printing heads and position sensors as taught by Kagayama et al. with the hand-held ink-jet printing device with the specific linear array of ink nozzles and positioning sensors as taught by Saund, in an effort to accommodate the requirements of the surface to be printed on (Saund – Detailed Description, Paragraph 34) to accomplish hand-held printing with relatively low-tech appearance and operation (Saund – Summary, Paragraph 11) and to accurately determine a portion of the image that is printed on the surface or medium.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gombrich et al. (US 4,623,418 A) teach a hand held printing apparatus with an inkjet plotter and an input device. Ward (US 4,807,177 A) teaches a hand held printer including a processor, memory and input means. Bobry (US 5,634,730 A) teaches a Hand-Held Printer with

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a processor, a sensor, memory, a print head array, input means, hardware control arrangement, a logic means, and a secondary memory. Hetzer et al. (US 5,880,448 A) teach a handheld franking machine with an ink printer head. Bobry (US 6,229,565 B1) teaches a hand-held camera with integral ink-jet printer. Desormeaux (US 6,543,893 B2) teaches a handheld inkjet printing mechanism with a processor and image data storage device. Walling (US 6,769,360 B2) teaches a handheld printing stamp with positioning parameters. Walling (US 2005/0018032 A1) teaches a very similar sensor and ink-jet print-head apparatus. Saksa (US 6,952,880 B2) teaches a marking device with positional sensing assembly in a handheld housing, with a processor, controller, memory, and user interface. Brenton (US 2006/0050131 A1) teaches a very similar hand held printer. Brenton (US 7,108,370 B2) teaches a very similar hand held printing device comprising a sensor and printing assembly.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is 571-270-3049. The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Assouad can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


JPZ
N. DREW RICHARDS
PRIMARY EXAMINER